



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,936	07/31/2003	Michael James McDermott	ROC920030138US1	9680
30206	7590	12/08/2005	EXAMINER	
IBM CORPORATION			NGUYEN, THUONG	
ROCHESTER IP LAW DEPT. 917			ART UNIT	PAPER NUMBER
3605 HIGHWAY 52 NORTH,				
ROCHESTER, MN 55901-7829			2155	

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/631,936	MCDERMOTT ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thuong T. Nguyen	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 31 July 2003.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-30 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 31 July 2003 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/31/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 2155

## DETAILED ACTION

1. This action is in response to application 10/631,936 filed 7/31/03. Claims 1-30 are pending and represent method, program and system for method and apparatus for validating and ranking resources for geographic mirroring.

### *Double Patenting*

2. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

3. Claims 1, 12 and 22 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1, 11 and 20 of copending Application No. 09/915,907. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

4. Claims 2, 13 and 25 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 2, 12 and 21 of copending Application No. 09/915,907. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

5. Claims 4, 15 and 23 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 3, 13 and 21 of copending Application No. 09/915,907.

This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

6. Claims 5, 16 and 24 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 4, 14 and 22 of copending Application No. 09/915,907.

This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

7. Claims 6 and 17 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 5, 15 and 23 of copending Application No. 09/915,907. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

8. Claims 7 and 26 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 6 and 24 of copending Application No. 09/915,907. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

9. Claims 8, 18 and 27 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 7, 16 and 25 of copending Application No. 09/915,907. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

10. Claims 9, 19 and 28 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 8, 17 and 26 of copending Application No. 09/915,907. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Art Unit: 2155

11. Claims 10, 20 and 29 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 9, 18 and 27 of copending Application No. 09/915,907. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

12. Claims 11, 21 and 30 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 10, 19 and 28 of copending Application No. 09/915,907. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

#### ***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1-2, 4, 6-13, 15, 17-23, 25-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Wipfel Patent No. 6,151,688. Wipfel teaches the invention as claimed including resource management in a clustered computer system (see abstract).

15. As to claim 1, Wipfel teaches a method comprising:  
configuring at least one resource for use by a node, wherein the node is  
associated with a site containing the resource (col 6, lines 35-39; Wipfel discloses that

Art Unit: 2155

the method of configured the resources for the cluster which includes a redundant shared disk array, shared nonvolatile storage and random access memory);

validating availability of the at least one resource for a resource pool, wherein the validating comprises determining accessibility by the node and verification that the resource is located at the site (col 9, lines 64 – col 10, lines 3; Wipfel discloses that the method of validated the unavailable of the nodes by using the valid checksum and the counter ); and

selecting, based upon the validating, at least one of the at least one resource for the resource pool (col 13, lines 35-44; Wipfel discloses that the method of selected the promoted node and check to see if it's suitable for the cluster).

16. As to claim 2, Wipfel teaches the method as recited in claim 1, comprising configuring the resource pool as a switchable disk pool (col 7, lines 31-36; Wipfel discloses that the method of provided a substitute backup link for the resources, nodes and cluster).

17. As to claim 4, Wipfel teaches the method as recited in claim 1, comprising: ranking availability of each disk unit for the resource pool (col 9, lines 50-63; Wipfel discloses that the method of using the counter value to measure the validation component and of the probe structure); and

selecting at least one valid disk unit for the resource pool according to availability ranking (col 12, lines 6-20; Wipfel discloses that the method of selected the node by checking the activity of the remote node through a different communication channel and determined the availability of the node).

Art Unit: 2155

18. As to claim 6, Wipfel teaches the method as recited in claim 1, wherein the node is part of a cluster resource group (col 5, lines 60-65; Wipfel discloses that the method of configure the cluster which includes several servers, workstation node, multiprocessors, etc.,.).

19. As to claim 7, Wipfel teaches the method as recited in claim 6, wherein the cluster resource group comprises a primary node and at least one backup node (col 13, lines 22-33; Wipfel discloses that the method of provided the main and backup node for the clusters).

20. As to claim 8, Wipfel teaches the method as recited in claim 6, comprising validating accessibility of resources in the resource pool when adding a node to a cluster resource group recovery domain, wherein the validating comprises determining that the node is associated with a site containing the resource pool (col 8, lines 52-58; Wipfel discloses that the method of validated the added node by the setting the resources properly to accommodate with the new node).

21. As to claim 9, Wipfel teaches the method as recited in claim 6, comprising when adding a switchable resource pool to the cluster resource group, verifying accessibility of each resource in the switchable resource pool by each node in the cluster resource group recovery domain located at the site (col 9, lines 8-18; Wipfel discloses that the method of verified the availability of the nodes and resources by using the heartbeat signal).

22. As to claim 10, Wipfel teaches the method as recited in claim 9, comprising verifying that a switchable entity containing the switchable resource pool is not included

Art Unit: 2155

in another cluster resource group (col 11, lines 63-68; Wipfel discloses that the method of verified the availability of the remote devices).

23. As to claim 11, Wipfel teaches the method as recited in claim 6, comprising validating switchability of the switchable resource pool when starting clustering (col 10, lines 38-46; Wipfel discloses that the method of verified the communication of the remote devices in the clusters and remote servers).

24. As to claim 12, Wipfel teaches the program comprising:

configuring at least one resource for use by a node, wherein the node is associated with a site containing the resource (col 6, lines 35-39; Wipfel discloses that the program of configured the resources for the cluster which includes a redundant shared disk array, shared nonvolatile storage and random access memory);

validating availability of the at least one resource for a resource pool, wherein the validating comprises determining accessibility by the node and verification that the resource is located at the site (col 9, lines 64 – col 10, lines 3; Wipfel discloses that the program of validated the unavailable of the nodes by using the valid checksum and the counter ); and

selecting, based upon the validating, at least one of the at least one resource for the resource pool (col 13, lines 35-44; Wipfel discloses that the program of selected the promoted node and check to see if it's suitable for the cluster).

25. As to claim 13, Wipfel teaches the program as recited in claim 12, wherein the steps further comprise configuring the resource pool as a switchable disk pool (col 7,

Art Unit: 2155

lines 31-36; Wipfel discloses that the program of provided a substitute backup link for the resources, nodes and cluster).

26. As to claim 15, Wipfel teaches the program as recited in claim 12, wherein the steps further comprise:

ranking of each resource for the resource pool (col 9, lines 50-63; Wipfel discloses that the program of using the counter value to measure the validation component and of the probe structure); and

selecting at least one valid resources for the resource pool according to results of the ranking (col 12, lines 6-20; Wipfel discloses that the program of selected the node by checking the activity of the remote node through a different communication channel and determined the availability of the node).

27. As to claim 17, Wipfel teaches the program as recited in claim 12, wherein the node is part of a cluster resource group (col 5, lines 60-65; Wipfel discloses that the program of configure the cluster which includes several servers, workstation node, multiprocessors, etc.,.).

28. As to claim 18, Wipfel teaches the program as recited in claim 17, wherein the steps comprise validating accessibility of resources in the resource pool when adding a node to the cluster resource group recovery domain (col 8, lines 52-58; Wipfel discloses that the program of validated the added node by the setting the resources properly to accommodate with the new node).

29. As to claim 19, Wipfel teaches the program as recited in claim 17, wherein the steps comprise verifying accessibility of each resource in the switchable resource pool

by each node in the cluster resource group recovery domain when adding a switchable resource pool to the cluster resource group (col 9, lines 8-18; Wipfel discloses that the program of verified the availability of the nodes and resources by using the heartbeat signal).

30. As to claim 20, Wipfel teaches the program as recited in claim 17, wherein the steps comprise verifying that a switchable entity containing the switchable resource pool is not included in another cluster resource group (col 11, lines 63-68; Wipfel discloses that the program of verified the availability of the remote devices).

31. As to claim 21, Wipfel teaches the program as recited in claim 17, wherein the steps comprise validating switchability of the switchable resource pool when starting clustering (col 10, lines 38-46; Wipfel discloses that the program of verified the communication of the remote devices in the clusters and remote servers).

32. As to claim 22, Wipfel teaches a system, comprising:

- a primary node that is associated with a site (figure 2);
- a resource pool connected to the primary node (figure 7); and
- a processor configured to validate availability of at least one resource for the resource pool (col 9, lines 64 – col 10, lines 3; Wipfel discloses that the system of validated the unavailable of the nodes by using the valid checksum and the counter ) and to select at least one valid resource for the resource pool, wherein the availability is validated based at least in part on the at least one resource being located at the site (col 13, lines 35-44; Wipfel discloses that the system of selected the promoted node and check to see if it's suitable for the cluster).

33. As to claim 23, Wipfel teaches the system as recited in claim 22, wherein the processor is further configured to rank each resource for the resource pool (col 9, lines 50-63; Wipfel discloses that the system of using the counter value to measure the validation component and of the probe structure) and select at least one valid resource for the resource pool according to ranking (col 12, lines 6-20; Wipfel discloses that the system of selected the node by checking the activity of the remote node through a different communication channel and determined the availability of the node).

34. As to claim 25, Wipfel teaches the system as recited in claim 22, wherein the resource pool is configured as a switchable resource pool (col 7, lines 31-36; Wipfel discloses that the system of provided a substitute backup link for the resources, nodes and cluster).

35. As to claim 26, Wipfel teaches the system as recited in claim 25, comprising at least one backup node connected to the switchable resource pool (col 13, lines 22-33; Wipfel discloses that the system of provided the main and backup node for the clusters).

36. As to claim 27, Wipfel teaches the system as recited in claim 25, wherein the processor is further configured to validate accessibility of resources in the switchable resource pool when adding a node to the cluster resource group recovery domain (col 8, lines 52-58; Wipfel discloses that the system of validated the added node by the setting the resources properly to accommodate with the new node).

37. As to claim 28, Wipfel teaches the system as recited in claim 25, wherein the processor is further configured to, when adding the switchable resource pool to the cluster resource group, verify accessibility of each resource in the switchable resource

Art Unit: 2155

pool by each node in the cluster resource group recovery domain (col 9, lines 8-18; Wipfel discloses that the system of verified the availability of the nodes and resources by using the heartbeat signal).

38. As to claim 29, Wipfel teaches the system as recited in claim 25, wherein the processor is further configured to verify that a switchable entity containing the switchable resource pool is not included in another cluster resource group (col 11, lines 63-68; Wipfel discloses that the system of verified the availability of the remote devices).

39. As to claim 30, Wipfel teaches the system as recited in claim 25, wherein the processor is further configured to validating switchability of the switchable resource pool when starting clustering (col 10, lines 38-46; Wipfel discloses that the system of verified the communication of the remote devices in the clusters and remote servers).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

40. Claims 3, 5, 14, 16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wipfel, Patent No. 6,151,688 in view of Norwood, Patent No. 5,983,316.

Wipfel teaches the invention substantially as claimed including resource management in a clustered computer system (see abstract).

41. As to claim 3, Wipfel teaches the method as recited in claim 1. Wipfel fails to teach the limitation wherein the node is a single node located at the site and the node operates as part of a geographically disperse computing system group.

However, Norwood teaches the limitation wherein the node is a single node located at the site and the node operates as part of a geographically disperse computing system group (figure 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wipfel in view of Norwood so that the system would be easier to monitor. One would be motivated to do so to simplify the system by divided the system into two main nodes, primary and remote nodes.

42. As to claim 5, Wipfel teaches the method as recited in claim 4. Wipfel fails to teach the limitation comprising providing at least one reason to a user to explain validity and ranking of each disk unit.

However, Norwood teaches computing system having a system node that utilizes both a logical volume manager and a resource monitor for managing a storage pool (see abstract). Norwood teaches the limitation wherein providing at least one reason to a user to explain validity and ranking of each disk unit (figure 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wipfel in view of Norwood so that the system would provides some

Art Unit: 2155

explanation to the user. One would be motivated to do so to improve the quality of the system by explaining the user what is going on.

43. As to claim 14, Wipfel teaches the program as recited in claim 12. Wipfel fails to teach the limitation wherein the node is a single node located at the site and the node operates as part of a geographically disperse computing system group.

However, Norwood teaches the limitation wherein the node is a single node located at the site and the node operates as part of a geographically disperse computing system group (figure 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wipfel in view of Norwood so that the system would be easier to monitor. One would be motivated to do so to simplify the system by divided the system into two main nodes, primary and remote nodes.

44. As to claim 16, Wipfel teaches the program as recited in claim 15. Wipfel fails to teach the limitation wherein the steps comprise providing at least one reason to a user to explain validity and ranking of each resource.

However, Norwood teaches the limitation wherein the steps comprise providing at least one reason to a user to explain validity and ranking of each resource (figure 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wipfel in view of Norwood so that the system would provides some explanation to the user. One would be motivated to do so to improve the quality of the system by explaining the user what is going on.

Art Unit: 2155

45. As to claim 24, Wipfel teaches the system as recited in claim 23. Wipfel fails to teach the limitation wherein the processor is further configured to provide at least one reason to a user to explain validity and ranking of each resource.

However, Norwood teaches the limitation wherein the steps comprise providing at least one reason to a user to explain validity and ranking of each resource (figure 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wipfel in view of Norwood so that the system would provide some explanation to the user. One would be motivated to do so to improve the quality of the system by explaining the user what is going on.

### **Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuong T. Nguyen whose telephone number is 571-272-3864. The examiner can normally be reached on 7:30AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2155

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thuong T Nguyen  
Patent Examiner/Art Unit 2155



SALEH NAJJAR  
SUPERVISORY PATENT EXAMINER